
U.S. Department of the Interior • U.S. Geological Survey

MINERAL INDUSTRY SURVEYS

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COBALT IN MARCH 1997

U.S. consumption of cobalt in the first 3 months of 1997 was 5% higher than consumption during the same period in 1996. U.S. imports of cobalt metal and cobalt contained in chemicals were 23% higher in the first 2 months of 1997 than imports during the same period in 1996. Exports of unwrought cobalt and cobalt contained in chemicals were 22% higher during the first 2 months of 1997 than the same period in 1996. Trade data for March 1997 will be available in a subsequent issue.

Note

With the exception of prices, all data in this report have been rounded to no more than three significant digits. Totals and percentages were calculated by using unrounded data.

Update

On July 1, the Defense Logistics Agency (DLA) announced a revised cobalt sales plan for the remainder of the fiscal year. DLA plans to hold two cobalt offers before September 30, 1997. The invitation for bids for the first offer was released on July 7. Approximately 227 tons (500,000 pounds) of cobalt is being offered under a sealed bid format. Awards are scheduled to be made within three working days of the August 6 bid opening. An invitation for bids for the second offer is scheduled to be issued in August, with the awards to occur in September. This second sale will be a negotiated sale of approximately 680 tons (1.5 million pounds) of cobalt. DLA originally planned three cobalt offers of 450 tons (1 million pounds) each in March, April, and May. These offers were suspended by a temporary restraining order resulting from a complaint filed by

one of the bidders. The complaint contested DLA's authority to prohibit "all or none" bids and to include a domestic preference provision in its sales. The court reaffirmed DLA's authority to prohibit the submission of "all or none" bids. The court also ruled that DLA has the authority to include a domestic preference provision, but expressed concern about the way in which DLA applied the provision to sealed bid offers. In order to resume cobalt sales without further delay, the DLA decided to eliminate the domestic preference provision from the July sealed bid offer. For further information on DLA's cobalt sales program, please contact June Olmstead, DLA's contracting officer for cobalt, at (703) 767-6500.

Price update, dollars per pound of electrolytic cobalt
(Source—Platt's Metals Week):

<u>Week ending</u>	<u>Price range</u>
May 30	24.00-25.75
June 6	23.50-24.75
June 13	23.50-24.50
June 20	22.50-23.50
June 27	21.90-23.10
July 4	21.90-23.10
July 11	21.90-23.10

Monthly averages

<u>May</u>	<u>June</u>
25.38	23.36

TABLE 1
U.S. REPORTED CONSUMPTION OF COBALT MATERIALS 1/

(Metric tons, contained cobalt)

Period	Metal 2/	Oxide and other chemical compounds 3/	Scrap	Total
1996:				
March	284	132 r/	147	563 r/
April	263 r/	114 r/	139	515 r/
May	267 r/	126 r/	142	536 r/
June r/	266	126	150	542
July	256	154 r/	136 r/	546
August	292	137 r/	136 r/	566 r/
September r/	258	127	126	511
October	272	133 r/	188 r/	593
November	259	129 r/	179 r/	568 r/
December r/	274	130 r/	189 r/	592 r/
January-March r/	849	432	433	1,710
January-December r/ 4/	3,260	1,610	1,820	6,680
1997:				
January	301 r/	138	177 r/	617 r/
February	284 r/	133	179 r/	596 r/
March	274	131	185	590
January-March	859	403	541	1,800

r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes metal powder.

3/ Data may include other cobalt materials.

4/ Data based on monthly reports.

TABLE 2
U.S. REPORTED CONSUMPTION OF COBALT, BY END USE 1/

(Metric tons, contained cobalt)

End use	1996		1997	
	January- March	January- December 2/	March	January- March
Steel:				
Stainless and heat resisting	9	38	3	9
Tool	W	W	W	W
Superalloys	772 r/	3,100 r/	284	891
Alloys (excludes steels and superalloys):				
Magnetic alloys	170 r/	678 r/	62	168
Welding materials (structural and hard-facing) 3/	67	268	30	74
Other alloys 4/	W	W	W	W
Cemented carbides 5/	188 r/	721	57	178
Chemical and ceramic uses:				
Catalysts	186	638	56	158
Driers in paints or related usage	184	733	60	172
Ground coat frit	48 r/	159 r/	10	43
Pigments	W	W	W	W
Miscellaneous and unspecified 6/	89 r/	352 r/	29	109
Total	1,710 r/	6,680 r/	590	1,800

r/ Revised. W Withheld to avoid disclosing company proprietary data; included with "Miscellaneous and unspecified."

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Data based on monthly reports.

3/ Includes wear-resistant alloys.

4/ Includes nonferrous alloys.

5/ Includes diamond bit matrices, cemented and sintered carbides, and cast carbide dies or parts.

6/ Includes feed or nutritive additive, full-alloy steel, glass decolorizer, mill products made from metal powder, and data indicated by the symbol "W."

TABLE 3
U.S. REPORTED STOCKS OF COBALT MATERIALS 1/

(Metric tons, contained cobalt)

	Industry 2/				U. S. Government 3/
	Metal 4/	Oxide and other chemical compounds 5/	Scrap	Total	Metal
1996:					
March	237	702	174	1,110	20,400
April	247	715	143	1,100	20,100
May	225	712	143	1,080	19,800
June	213	714	112	1,040	19,600
July	237	717	104	1,060	19,500
August	354 6/	443 6/	102	899	19,300
September	324	326	81	732	19,000
October	279	275	106	661	18,900
November	283	280	107	669	18,800
December	273	273	182	728	18,700
1997:					
January	329 r/	275 r/	123 r/	727 r/	18,500
February	295 r/	263 r/	114 r/	672 r/	18,400
March	320	245	140	705	18,300

r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Stocks reported by cobalt processors and consumers.

3/ Data from Defense Logistics Agency. Includes material committed for sale pending shipment.

4/ Includes metal powder.

5/ Data may include other cobalt materials.

6/ Data being questioned.

TABLE 4
U.S. IMPORTS FOR CONSUMPTION OF COBALT, BY COUNTRY 1/

(Kilograms, gross weight of material, except as noted)

Period and country of origin	Metals 2/		Oxides and hydroxides		Salts and compounds 3/		Total cobalt content for the month 5/	Cobalt content, year to date 5/ 6/
	Quantity	Value 4/	Quantity	Value 4/	Quantity	Value 4/		
1996:								
February	471,000	\$30,000,000	57,100	\$2,810,000	25,600 7/	\$314,000 7/	519,000	1,130,000
March	540,000	36,000,000	41,400 8/	2,030,000 8/	167,000 9/	2,270,000 9/	616,000 r/	1,750,000
April	432,000	27,500,000	147,000	6,370,000	104,000	1,340,000	566,000	2,310,000
May	475,000	28,700,000	62,100	2,730,000	55,200	786,000	533,000	2,850,000
June	600,000	36,100,000	82,200	3,710,000	88,800	1,170,000	682,000	3,530,000
July	590,000	34,800,000	93,900	4,440,000	60,200	778,000	674,000	4,200,000
August	480,000	24,800,000	51,900 8/	2,010,000 8/	38,600	405,000	528,000 r/	4,730,000
September	434,000 9/	20,600,000 9/	58,600	2,440,000	101,000	954,000	503,000 r/	5,240,000
October	347,000	17,100,000	71,000	3,030,000	101,000	1,010,000	425,000	5,660,000
November	481,000 9/	22,300,000 9/	61,100	2,640,000	90,700	911,000	550,000	6,210,000
December	400,000	19,400,000	64,100	2,400,000	155,000	1,340,000	494,000	6,710,000
January-December	5,760,000	327,000,000	824,000 r/	36,200,000 r/	1,260,000 r/	14,800,000	6,710,000 r/	XX
1997:								
January	629,000 10/	28,400,000 10/	85,900	3,080,000	182,000 10/	1,470,000 10/	746,000	746,000
February:								
Belgium	2,230	201,000	12,000	509,000	--	--	10,900	41,900
Brazil	10,000	418,000	--	--	--	--	10,000	34,100
Canada	96,200	4,720,000	--	--	499	12,300	96,500	219,000
Finland	43,500	1,910,000	25,300	867,000	145,000	1,380,000	100,000	217,000
France	4,400	373,000	1,450	98,700	--	--	5,450	7,960
Germany	3,120	176,000	--	--	275	3,570	3,190	4,290
Japan	--	--	969	55,900	--	--	698	1,980
Norway	191,000	8,140,000	--	--	--	--	191,000	288,000
Russia	88,100	3,040,000	--	--	--	--	88,100	186,000
South Africa	--	--	--	--	--	--	--	749
Spain	--	--	17,300 10/	163,000 10/	--	--	12,400	12,400
United Kingdom	1,240	62,800	--	--	11,000	141,000	4,030	16,700
Zaire	62,900	2,470,000	--	--	--	--	62,900	138,000
Zambia	64,000	2,840,000	--	--	--	--	64,000	228,000
Total	567,000	24,300,000	56,900	1,690,000	157,000	1,540,000	649,000	1,400,000

r/ Revised. XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Unwrought cobalt, excluding alloys; includes cobalt cathode and cobalt metal powder.

3/ Includes cobalt sulfates, cobalt chlorides, cobalt carbonates, and cobalt acetates.

4/ Customs value.

5/ Estimated from gross weights.

6/ Year to date may include revisions to prior months.

7/ Data verified correct by the Bureau of the Census.

8/ Data adjusted by the U. S. Geological Survey.

9/ Data revised by the Bureau of the Census.

10/ All or part of these data have been referred to the Bureau of Census for verification.

Source: Bureau of the Census.

TABLE 5
U.S. IMPORTS FOR CONSUMPTION OF ADDITIONAL COBALT MATERIALS, BY COUNTRY 1/

(Kilograms, gross weight of material, except as noted)

Period and country of origin	Unwrought cobalt alloys		Other cobalt: matte, waste and scrap 2/		Wrought cobalt and cobalt articles	
	Quantity	Value 3/	Quantity	Value 3/	Quantity	Value 3/
1996:						
February	6,810	\$531,000	89,900	\$731,000	16,000	\$651,000
March	1,340	107,000	71,200	1,370,000	21,800	1,410,000
April	3,940	213,000	48,700	954,000	19,000	1,270,000
May	3,970	339,000	34,500	694,000	19,800	1,270,000
June	2,630	108,000	17,400	292,000	13,800	1,070,000
July	4,540	345,000	51,000	943,000	12,300	868,000
August	8,080	313,000	84,600	2,020,000	10,500	676,000
September	2,500 4/	237,000 4/	14,900 4/	765,000 4/	12,500	878,000
October	483	34,100	47,900	644,000	17,500	1,020,000
November	17,500 4/	946,000 4/	20,400 4/	552,000 4/	9,680	714,000
December	3,560 5/	207,000 5/	55,300 5/	2,270,000 5/	15,300	1,100,000
January-December	60,500 r/	3,790,000 r/	566,000 r/	11,700,000 r/	178,000	11,500,000
1997:						
January	5,920	443,000	32,800 6/	1,070,000 6/	14,500	876,000
February:						
Belgium	--	--	1,830 6/	86,500 6/	--	--
Canada	339	24,200	683 6/	16,000 6/	537	83,600
Denmark	--	--	130	2,230	--	--
Finland	--	--	4,800 6/	311,000 6/	--	--
Germany	355	45,200	5,200	142,000	13	2,260
Japan	220	19,300	--	--	4,040	266,000
Norway	--	--	250 6/	11,300 6/	--	--
Peru	--	--	--	--	--	--
Russia	--	--	620	2,100	--	--
Sweden	436	15,300	--	--	--	--
United Kingdom	--	--	13,600 6/	230,000 6/	9,500	606,000
Zaire	11,000	393,000	--	--	--	--
Zambia	--	--	11,000 6/	478,000 6/	--	--
Total	12,400	497,000	38,100	1,280,000	14,100	958,000

r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes other intermediate products of cobalt metallurgy; may include other cobalt-bearing materials from which cobalt is extracted, or from which cobalt-containing chemical compounds are manufactured.

3/ Customs value.

4/ Data revised by the Bureau of the Census.

5/ Data adjusted by the U. S. Geological Survey.

6/ All or part of these data have been referred to the Bureau of Census for verification.

Source: Bureau of the Census.

TABLE 6
U.S. EXPORTS OF COBALT MATERIALS 1/

(Kilograms, gross weight of material, except as noted)

	Unwrought cobalt, powders, matte, waste and scrap 2/		Oxides and hydroxides		Salts and compounds 3/		Total cobalt content for the month 5/	Cobalt content, year to date 5/ 6/
	Quantity	Value 4/	Quantity	Value 4/	Quantity	Value 4/		
1996:								
February	76,700	\$4,750,000	20,200	\$642,000	30,000 7/	\$490,000 7/	98,500 r/	199,000
March	214,000	13,000,000	29,100	1,070,000	6,260 8/	96,100 8/	237,000 r/	436,000
April	168,000	9,640,000	53,800	1,470,000	15,100	132,000	210,000	647,000
May	145,000	6,930,000	22,700 9/	689,000 9/	20,500	346,000	166,000	812,000
June	159,000	7,500,000	13,300 9/	514,000 9/	20,600	310,000	173,000	986,000
July	64,300	2,870,000	24,100 9/	575,000 9/	27,200	271,000	88,200	1,070,000
August	88,700	3,160,000	7,970 8/	277,000 8/	26,600	292,000	101,000 r/	1,170,000
September	58,200	2,370,000	35,600 9/	1,060,000 9/	42,800 8/	224,000 8/	94,200 r/	1,270,000
October	73,100 7/	3,390,000 7/	25,700 7/	790,000 7/	31,900	104,000	99,300 r/	1,370,000
November	84,000	3,510,000	27,400	777,000	78,100	316,000	122,000	1,490,000
December	105,000	3,340,000	54,400	1,440,000	112,000	678,000	171,000	1,660,000
January-December	1,310,000 r/	65,500,000 r/	346,000 r/	10,200,000 r/	446,000 r/	4,050,000 r/	1,660,000 r/	XX
1997:								
January	60,800	2,350,000	30,300	979,000	34,100 10/	149,000 10/	90,700	90,700
February	101,000	2,480,000	48,100 10/	1,160,000 10/	65,500 10/	234,000 10/	152,000	242,000

r/ Revised. XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ May include other intermediate products of cobalt metallurgy, and unwrought cobalt alloys.

3/ Cobalt acetates and cobalt chlorides.

4/ Free alongside ship (f.a.s.) value.

5/ Estimated from gross weights.

6/ Year to date may include revisions to prior months.

7/ Data revised by the Bureau of the Census.

8/ Data adjusted by the U.S. Geological Survey.

9/ Data no longer in question.

10/ All or part of these data have been referred to the Bureau of the Census for verification.

Source: Bureau of the Census.

TABLE 7
U.S. EXPORTS OF WROUGHT COBALT, COBALT ORE, AND CONCENTRATES 1/

(Kilograms, gross weight of material, except as noted)

Period and country of origin	Wrought cobalt and cobalt articles		Cobalt ore and concentrates	
	Quantity	Value 2/	Quantity	Value 2/
1996:				
February	18,300	\$1,630,000	5,100 3/	\$330,000 3/
March	24,100	2,060,000	9,740 3/	119,000 3/
April	25,400	1,890,000	--	--
May	18,800	1,460,000	19,300 4/	174,000 4/
June	62,000	2,150,000	--	--
July	28,500	1,170,000	3,500 3/	162,000 3/
August	67,100	1,660,000	43,500 4/	1,050,000 4/
September	31,000	1,780,000	56,200 4/	2,250,000 4/
October	20,600	1,420,000	(5/)	(5/)
November	108,000	2,610,000	8,790 4/	370,000 4/
December	85,400	4,040,000	17,000 4/	629,000 4/
January-December	529,000	23,500,000	171,000 r/	5,190,000 r/
1997:				
January	44,300	3,020,000	24,600 6/	1,000,000 6/
February	20,900	1,420,000	80,500 6/	750,000 6/

r/ Revised.

1/ Data are rounded to three significant digits.

2/ Free alongside ship (f.a.s.) value.

3/ Data revised by the Bureau of the Census.

4/ Data no longer in question.

5/ Data revised to zero by the Bureau of the Census.

6/ All or part of these data have been referred to the Bureau of the Census for verification.

Source: Bureau of the Census.